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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,133	01/09/2001	Niles A. Fleischer	196/36	6526
7590	01/12/2004		EXAMINER	
Dority & Manning, P.A. P.O.BOX 1449 Greenville, SC 29602				CHANAY, CAROL DIANE
		ART UNIT		PAPER NUMBER
		1745		

DATE MAILED: 01/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application N .</b>	<b>Applicant(s)</b>
	09/756,133	FLEISCHER ET AL.
	Examiner	Art Unit
	Carol Chaney	1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 11 August 2003.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-61 is/are pending in the application.  
4a) Of the above claim(s) 1-30,34-36,41-45,50-55,60 and 61 is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 31-33,37,39 and 46-49 is/are rejected.  
7)  Claim(s) 38,40 and 56-59 is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

13)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a)  The translation of the foreign language provisional application has been received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ . 6)  Other: \_\_\_\_\_ .

***Election/Restrictions***

Applicant's election of the invention of Group II and the species of a capacitor, corresponding to claims 31-33, 37-40, 46-49 and 56-59 in Paper No. 10 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 56 and 58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants' recitations of "between 25 and 33% PDVF and between 67 and 75% PVP are indefinite because it is unclear if the percentages claimed are intended to be weight or volume percents.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

Art Unit: 1745

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 31-33, 37, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Oka et al., US Patent 5,830,603.

Oka et al. disclose separator films which are made of a hydrophobic resin (a matrix) with a hydrophilic polymer in the matrix pores. (See abstract.) Polyvinylidene fluoride is an exemplary hydrophobic resin (see column 6, line 54) and polyvinylpyrrolidone is an exemplary hydrophilic polymer (see column 7, lines 27-36.) With regards to claims 32 and 33, the separator disclosed by Oka et al. is designed to be used with storage batteries such as Ni-Cd and Ni-hydrogen batteries, and therefore will be "inherently active in initiation of discharge", and the cathode will form "an electrochemical couple with said anode." With regards to claim 39, the separator is also disclosed as suitable with batteries containing manganese dioxide cathodes. (Column 12, line 67.)

Claims 31, 37, 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Maletin et al., US 2002/0097549 A1.

Maletin et al. disclose double layer capacitors having polarizable carbon electrodes (see paragraph 90) with a separator between the two electrodes. In an

exemplary embodiment, the separator is a silicon oxide aerosol carried in a PVDF/NMP paste. Silicon oxide is considered an inorganic polymer, and is considered hydrophilic. Thus, the claims are anticipated.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maletin et al.

As discussed above, Maletin et al. disclose applicants' invention essentially as claimed, with the exception with respect to claims 47 and 49, Maletin et al. do not specifically disclose electrode or capacitor thicknesses. However, Maletin et al. disclose that the thickness of electrodes can be varied to adjust capacitance. (See page 7, paragraph 111) Thus, the thickness of electrodes is taught to be a result-effective variable, and the discovery of optimum of result effective variable in known process is ordinarily within the skill of art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

With respect to claim 48, Maletin et al. do not specifically recite an electrode containing a protonic medium in combination with high surface area carbon. However, Maletin et al. suggest the inventive capacitor electrodes could be used with aqueous

H<sub>2</sub>SO<sub>4</sub> electrolyte systems. since such a system is suggested, it would have been within the skill of the ordinary artisan use the Maletin invention with an aqueous H<sub>2</sub>SO<sub>4</sub> electrolyte systems so that the electrodes would contain an protonic medium.

***Allowable Subject Matter***

Claims 38, 40 and 56-59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regards to claims 38 and 40, he prior art does not suggest electrochemical cells having a tin-containing anode and the separator as claimed nor electrochemical cells having the combination of a tin-containing anode, a manganese-containing cathode and the separator as claimed.

With regards to claims 56-59, the prior art does not suggest double layer capacitors containing separators formed with PVDF and PVP in the proportions claimed.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 03 178429A Terumo Corporation

US 6,444,343 B1 Prakash et al.

US 6,465,136 B1 Fenton et al.

all disclose composite separators.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Chaney whose telephone number is (571) 272-1284. The examiner can normally be reached on Mon - Fri 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.



Carol Chaney  
Primary Examiner  
Art Unit 1745

cc